

20426

S/109/60/005/012/024/035

E192/E582

9.4/30 (3201, 2804, 1137, 2801)

AUTHORS: Leyteyzen, L. G., Glukhovskoy, B. M. and Tarasova, Ye. I.

TITLE: Simultaneous Activation of Various Photocathodes and  
Emitters in Photo-electron Multipliers

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol. 5, No. 12,  
pp. 2038-2045

TEXT: A large number of photo-electron multipliers was analysed and the characteristics of their photocathodes were investigated. The photomultipliers were of the standard industrial or laboratory type. First the spectral characteristics of a number of multistage photo-electron multipliers with bismuth-silver-cesium cathodes and antimony-cesium emitters, as well as Al-Mg alloy emitters were investigated experimentally. Some of these are shown in Fig. 1, where the wavelength is shown on the abscissa in microns. Some spectral characteristics of the multipliers with oxide-silver-cesium cathodes were also investigated and the results are given graphically. It is concluded that the shape of the characteristics of the tubes with antimony-cesium emitters is due to the strong adsorption of cesium by the emissive layer, so that a film of free cesium is formed on the cathode which lowers its work function.

Card 1/6

20426

S/109/60/005/012/024/035

E192/E582

Simultaneous Activation of Various Photocathodes and Emitters in  
Photo-electron Multipliers

The secondary emission coefficient of the photomultipliers was investigated at a fixed voltage and it was found that it varied considerably from sample to sample, depending on its processing conditions. The average efficiency characteristics of the secondary-emission surfaces were also investigated. The efficiency coefficient is defined as the average gain of the multiplier per stage; this was obtained by measuring a large number of samples and determining the voltage and sensitivity distribution for the cathodes (I.Ya.Breydo et al., Ref.1). In general, the distribution curves have the form of the normal Gaussian distribution. The average gain coefficients per stage for a number of standard multipliers produced in 1959 with various emitters were investigated by the above method and the results are given in a figure, while the details of the multipliers are shown in a table. The same figure shows also the gain of some of the American tubes (made by RCA). From the experimental data given in the figures it is seen that for the same interstage voltages the gain of the multipliers with antimony-caesium emitters is much higher than that of the tubes with

Card 2/6

20426  
S/109/60/005/012/024/035  
E192/E582

# Simultaneous Activation of Various Photocathodes and Emitters in Photo-electron Multipliers

alloy-type emitters; the highest gain is obtained in the multipliers with a lateral optical input. The efficiency of various multiplier systems is approximately identical but the coefficient of the secondary emission as a function of voltage differs considerably. The effect of the presence of alkali metals on the secondary emission coefficient of alloy-type emitters was also investigated. According to N. Schaetti (Ref.3), M. Biermann and W. Krüger (Ref.4) and Ye. G. Kormakova and V. G. Pavlovskaya (Ref.5) the presence of cesium leads to an increase in the secondary emission coefficient  $\sigma$ . This effect was investigated for the Al-Mg emitters for the multipliers provided with a heated cathode. The overall gain of the multipliers was measured during various processing stages and the average gain was then calculated. The results of these measurements are given in Figs. 4 and 5. These show the gain per stage as a function of the interstage voltage. curves 1 and 2 in Fig.4 illustrate the effect of thermal activation, curves 1' and 2' represent the processing with K-Na, while curves 1'' and 2'' illustrate the influence of Cs processing. Curves 1 2 and 3 in Fig.5 show

Card 3/6

20426

S/109/60/005/012/024/035  
E192/E582

Simultaneous Activation of Various Photocathodes and Emitters in  
Photo-electron Multipliers

the gain after the thermal activation, while curves 1, 2, and 3 illustrate the effect of Cs processing; in both figures the same emitters made of Al-Mg alloy were used. The dark current of the multipliers, which determines their sensitivity, was also investigated. It was found that the spread of this parameter, at a given sensitivity, in the standard commercial tubes was very considerable (several orders) and was much higher than the spread of other parameters. It was found that oxide-cesium cathodes give a constant thermal component of the dark current, which does not increase when the cathode is illuminated. On the other hand, an Sb-Cs cathode, operating with antimony-cesium emitters, has a very low thermal current. The multipliers with various other types of cathodes and with Al-Mg emitters give almost identical results as regards the thermal current. It is thought that the reason for the comparatively high dark currents in the multipliers with Sb-Cs cathodes and alloy-type emitters, as compared with other cathodes and emitters, is the luminescence of the alloy-type emitters.

Card 4/6

20426

S/109/60/005/012/024/035  
E192/E582

Simultaneous Activation of Various Photocathodes and Emitters in  
Photo-electron Multipliers

There are 7 figures, 2 tables and 7 references: 3 Soviet and  
4 non-Soviet.

SUBMITTED: December 21, 1959

Fig. 1

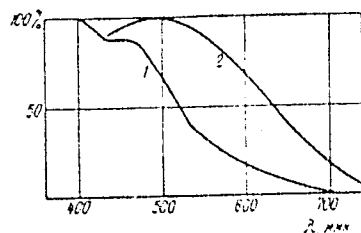


Рис. 1. Спектральные характеристики  
висмута-серебряно-цезиевых катодов:  
1 — с Sb — Ca-эммитерами; 2 — с Al — Mg-  
эммитерами

Card 5/6

100-44361-107/108  
100-44361-109

AUTHORS: Lukonovskiy, A. M., and A. I. Lyubimov, Jr.

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PERIODICAL: Akademiya Nauk SSSR. Seriya Khim. Nauk, 1969, No. 11, 1972, 1973, 1979

TEXT: Some properties of the monocrystalline photoconductors made of type 1-35 (FBU-35) and 1-36 (FBU-36) with semi-transparent Sn-Sn-K-Cs photoelectrodes are described. The authors describe the development stage of these multipliers in 1961 and series production is now being planned. The FBU-36 multiplier for light measurements and a cathode of 25 mm diameter and 11 multiplying cascades. The basket-shaped emitters were produced from the activated 1-32 (FBU-32) alloy and activated before the multiplying system was mounted. The alkaline metals were prepared by heating tablets of the chromites of Zr, Na, Cs and of well purified powdered titanium (reducing agent). The logarithm of the sensitivities and the dark current increase almost linearly with the voltage. For FBU-36 this increase is steeper than for FBU-35. FBU-35 and FBU-36 are sensitive

Card 1/2

Card 1/2

Properties of the photoelectronic...

3/04/62/02/01/01/02:  
5125, 5130.

in the range 300 - 400 m $\mu$  with a maximum at 350 m $\mu$ . According to measurements by A. I. Borisov at the Institut radiofiziki i fiziki khimicheskoy biologii AN SSSR, Institute of radiation and physicochemistry, Biology AS USSR, the signal-to-noise ratio between 350 and 400 m $\mu$  of the best GaAs multiplier is ten times higher, and that of the poorest is 4.5 times higher than the ratio in the reference sample multipliers -11, -17, and -22. The best GaAs multipliers have anode sensitivities of 12 to 100 a/lm $\mu$  and a sensitivity threshold of  $5 \cdot 10^{-10}$  lumen. In measurements with modulated light signals the light threshold of the GaAs multipliers is more than twice as good as that of GaAs. After a one-hour operation the instability of most of the multipliers remains below 1%. The parameters of the new multipliers remain the same even after operation for 1000 hours. The emitters, in particular, show no fatigue. GaAs crystals in connection with GaAs give a light yield more than ten times of other multipliers with antimony-doped photoconductors. A resistance of  $5 \cdot 10^8$  ohms is achieved with GaAs or Ga (Te) crystals. There are 100 units and 1 table.

Card 2/2

L 25071-65 EWT(1)/EWT(m)/EPA(w)-2/EEC(b)-2/EWA(m)-2/EWA(l) Feb-10/Pt-10/

ACCESSION NR: AR4045741 Feb IJP(d) S/0275/64/000/007/A034/A034

SOURCE: Ref. zh. Elektronika i yeye primeneniye. Svochnyy tcm, Abs. 7A'90

AUTHOR: Leyteyzen, L. G.; Glukhovskoy, B. M.; Berkovskiy, A. B.

TITLE: Characteristics of new types of multistage multiplier phototubes intended for scintillation spectrometers

CITED SOURCE: Sb. Stsintillyatory\* i stsintillyats. materialy\*, Khar'kov, Khar'kovsk. un-t, 1963, 217-220

TOPIC TAGS: multiplier phototube / FEU-28, FEU-32, FEU-37, FEU-38, FEU-39, FEU-51 photomultipliers

TRANSLATION: Fundamental parameters and characteristics are presented of these industrial multiplier phototubes developed in 1960 and covering the 170--1,200-nm wavelength band: FEU-28, FEU-32, FEU-37, FEU-38, FEU-39, and FEU-51. Bibliography: 1 title.

SUB CODE: EC

ENCL: 00

Card 1/1



LEYTEYZEN, L.G.; GLUKHOVSKOY, B.M.

Parameters of new designs of commercial type photomultipliers.  
Izv. AN SSSR. Ser. fiz. 28 no.1:115-117 Ja '64. (MIRA 17:1)

L 14373-65 ENT(1)/ENG(E)/EED(t)/EED(t)-2/ENL(h) P-5/P-8 LTP(6)/  
AFME(t)/RAEM(a)/EED(gs)/ESD(t) AT  
ACCESSION NR: AP4045298 5/004B/66/028/009/1450/1453

AUTHOR: Leyteyzen, L. G.; Glukhovskoy, B. M.; Epshcheyn, M. I.

TITLE: Investigation of the sensitivity thresholds of photomultipliers with different photocathodes for various spectral regions [Report, Tenth Conference on Cathode Electronics held in Kiev from 11 to 18 Nov 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 28, no. 9, 1964, 1450-1453

TOPIC TAGS: photomultiplier tube, photomultiplier characteristic, photocathode

ABSTRACT: For a number of applications of photomultipliers it is essential to know the spectral sensitivity threshold and peak sensitivity region of the tubes. Accordingly, the absolute values of the sensitivity threshold wavelengths of photomultipliers with Sb-Cs, Ag-O-Cs, Bi-Ag-O-Cs, Sb-K-Na-Cs and Sb-K-Na photocathodes, which represent the five basic types of photocathodes, were determined. The measurements were carried out on a special setup for this purpose.

Card 1/2

L 14373-65

ACCESSION NR: AP4045298

using interference light filters, for each of which the exact transmission curve was first obtained. The measurement results are presented in the form of curves characterizing the variation of the spectral sensitivity threshold with wavelength and the absolute spectral sensitivity with wavelength for each type of photocathode. The regions of peak spectral sensitivity do not coincide with the regions of optimum sensitivity. The characteristics of Ag-O-Cs photocathodes are distinctive. The test data should be helpful in selecting photo-multipliers for specific applications. Orig. art. has: 1 formula and 3 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

Card 2/2

KLYACHKO, A.D., inzh.; ODINOV, N.I., inzh.; GLUKHOVSKIY, E.A.,  
kand. tekhn. nauk, inzh., red.; GRABOV, A.A., doktor  
tekhn. nauk, prof., red.; GERENSHTEYN, B.V., kand.  
tekhn. nauk, red.; KOSTYUCHENSKIY, M.G., kand. tekhn.  
nauk, red.; KAYLOV, N.A. doktor tekhn. nauk, red.;  
KUREEK, N.M., kand. tekhn. nauk, red.; LEVINSEIY, L.G.,  
inzh., red.; LOBANSKY, N.D., inzh., red.; MOROZOV, A.B.,  
inzh., red.; ONIASHVILI, G.D., doktor tekhn. nauk, prof.,  
red.; SARENKOVSKIY, K.V., doktor tekhn. nauk, prof., red.;  
FILIN, A.P., doktor tekhn. nauk, prof., red.; YEREMOV,  
A.I., inzh., nauchn. red.

[Three-dimensional structural elements in the U.S.S.R.;  
materials of the All-Union Conference on Precast  
Reinforced Concrete Three-Dimensional Elements held in  
November 13-17, 1962 in Leningrad] Prostranstvennye kon-  
struktsii v SSSR; po materialam pervogo Vsesoyuznogo so-  
veshchaniya po obrabotke zhelezobetonnykh prostreanstvennykh  
konstruktsiy, sostoyavshegosya 13-17 noyabrya 1962 g.  
v Leningrade. Leningrad, Stroizdat, 1962. 461 p.

(MIRA 17:11)

1. Nauchno-tekhnicheskoye obshchestvo stroitel'noy indu-  
strii SSSR. Leningradskoye otdeleniye.

GLUKHOVSKOY, K.A., inzh.; KRONROD, A.A., inzh.; BMDIN, N.A., inzh.

Using rammed concrete piles in making foundations for light  
buildings and structures. Biul. tekhn.inform. 4 no.9:10-13  
S '58. (MFA 11:10)

(Foundations)

GLUKHOVSKOY, E.A.. inzh.; AVROTIN, M.L., inzh.

In the drive for progressive technology and high quality of building.  
Biul.tekh.inform. 4 no.10:9-12 0 '58. (MIRA 11:11)  
(Leningrad--Apartment houses)  
(Leningrad--Precast concrete construction)

GLUKHOVSKOY, K.

Our successes. Stroitel' no.12:3-5 D '58. (MIRA 12:1)

1. Upravlyayushchiy Leningradskim stroitel'ny'm treptom No.20.  
(Leningrad--Apartment houses) (Precast concrete construction)

DAVIDSON, M., doktor techn. nauk, prof.: OLSENENKOV, N., inzh.: ROBINSON, A., inzh.

Using thin layers of plaster under winter conditions in Leningrad.  
Sovetskaya Arkhitektura, 1951, No. 10, p. 15.  
(Original---Plastering---all weather conditions)



AVRYUTIN, M.L., inzh.; GLUKHOVSKOY, K.A., inzh.; KROMOD, A.K., inzh.

Experimental large-panel lightweight concrete houses. Bul.  
tekhn.inform. 5 no.2:3-7 F '59. (MIRA 12:4)  
(Leningrad--Apartment houses) (Lightweight concrete)

GLUKHOVSKOY, K., inzh.; KRYLOV, N., kand.tekhn.nauk, MALYSHEV, V., inzh.

Acoustical and radiometric methods of inspecting the quality of  
building materials and structural elements. Na stroi. Ros.  
no.11:16-18 N 161. (KIRA 1617)  
(Building materials--Testing)

S/081/62/030/006/062/117  
B149/B106

AUTHORS: Krylov, N. A., Glukhovskoy, K. A.

TITLE: Methods of non-destructive testing of concrete

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 437, abstract  
6K429 (Beton i zhelezobeton, no. 7, 1961, 319 - 323)

TEXT: Some theoretical aspects are given, as well as the results of experiments on the joint application of the electronacoustic and radiometrical methods of non-destructive concrete testing. The processes of interaction of various impulses with inertia, elastic, plastic, and structural elements of a wave-guide were checked experimentally by electrical simulation. Three empirical methods of determining the strength of materials and structural elements, viz. the standard, static, and comparative methods are described as well as the results of practical application of these methods. It is noted that the electron-acoustic and radiometrical methods of non-destructive testing can be successfully used in solving problems connected with the automation of fundamental technical processes in the works producing reinforced concrete elements. The essential schemes of

Card 1/2

Methods of non-destructive ...

S/081/62/000/006/062/117  
B149/3108

automation are given for preparation of concrete mixtures with a constant water-to-cement ratio, compaction of concrete mixtures, prestressing of reinforcement, and treatment of materials in autoclaves. [Abstracter's note: Complete translation.]

Card 2/2

GLUKHOVSKOY, K.A.; EMDIN, N.A.

New thin-walled three-dimensional reinforced concrete elements  
in Leningrad. Bet. i zhel.-bet. no.10:436-441 O '61.

(MIRA 14:12)

1. Zamestitel' nachal'nika Glavleningradstroya (for Glukhovskoy).
2. Nachal'nik uchastka stroitel'stva obolochok Glavleningradstroya  
(for Emdin).

(Leningrad--Roofs, Shell)

GLUKHOVSKOY, K.A.; KRYLOV, N.A.; KRONFELD, A.A., inzh., nauchn. red.;  
~~MARKUS, B.M., red.; KUZ'MINA, N.V., tekhn. red.~~

[Nondestructive methods of testing materials] Nerazru-  
shaiushchie metody ispytaniia materialov; materialy k  
Vserossiiskomu soveshchaniu po prostranstvennym kon-  
struktsiiam. Leningrad, Izd. ot-la tekhn.informatsii tes-  
sta "Leningradorgstroim," 1962. 71 p. (MIRA 16:8)

1. Leningrad. Upravleniye po zhilishchnomu i grazhdanskemu  
stroitel'stvu.

(Nondestructive testing)

GLUCHOVSKOJ, K.A. [Glukhovskoy, K.A.], inz.

Prefabricated reinforced concrete roof structures for one-story industrial halls in the Soviet Union. Poz stavby 10 no.12:631-634 D '62.

1. Namestek reditele Leningradostroje, Leningrad.

GIUKHOVSKOY, E.A., inst.

Wider introduction of three-dimensional structures into  
industrial construction. Bet. i zhe1.--bat. 9 no.11:481-485  
N 163. (MIRA 1961)

1. Mashal'nik Glavzapstroya.



GLUKHOVSKOY K.A., inzh.

Mechanization of the construction of pile foundations for residential buildings in Leningrad. Mekh. stroi. 20 no.6:4-6 Je '63.  
(MIRA 16'5)

(Leningrad--Piling (Civil engineering)) (Leningrad--Foundations)

GLUKHOVSKOY, K.A.

High-speed methods in the building of the "Posfort" Company.  
Prom. stroi. 42 no.12:10-12 1 '64. (MBA 19.3

1. Nachal'nik Glavzapstroya Ministerstva stroitel'stva RSFSR.

GLUKHOVSKOY, K.; EMDIN, N., inzh. [deceased]

The contributions of reinforced concrete shells to completely  
precast industrial construction. Na stroi.Ros. 3 no.9:15-17  
S '62. (MIRA 15:12)

1. Zamestitel' nachal'nika Glavnogo Leningradskogo upravleniya  
po zhilishchnomu i grazhdanskomu stroitel'stvu (for Glukhovskoy).  
(Roofs, Shell) (Industrial buildings)

GLUBOVSKIY, V. (Shar'ya, Kostromskaya obl.)

New city on the Volga River 411.4 km. from Leningrad (YARA 1-11)

0 141,

(Shar'ya--City planner)

GLUKHOVSKOY, P.

Problems in work on state revenue. Fin.SSSR 16 no.12:36-38 D '55.  
(MLRA 9:2)

1.Zamestitel' Ministra finansov USSR.  
(Ukraine--Revenue)

L 14456-65 EWT(m)/EWP(j)/T Pc-4 SSD/AFWL/ASD(m)-3/AS(m)-2/AFETR/RAEM(1)/  
 ACCESSION NR: AP4047673 ESD(gs)/ESD(t) RM/0303/64/000/005/0008/0009

AUTHOR: Yukel'son, I. I., Glukhovskoy, V. S.

TITLE: Chemically stable coatings based on polyarylene alkyls

SOURCE: Lakokrasochnyye materialy i ikh primeneniye, no. 5, 1964, 8-9

TOPIC TAGS: polyarylene alkyl, lacquer, cross-linked polymer, sulfurated polymer, thermosetting polymer, paramagnetic resonance, infrared absorption spectrum

ABSTRACT: The author investigated the reaction products of polyarylene alkyls with sulfur, forming thermosetting materials. Polyethyl-phenylene-ethyl (d = 1.0006, average mol. weight = 1200) was used as a carbon-chain saturated polymer of the fatty aromatic series and sulfur was the cross-linking agent. The mechanism of cross-linking of polyethyl-phenylene-ethyl by sulfur is discussed and interpreted by chemical equations. Paramagnetic resonance analysis and infrared absorption spectra of the cross-linked product showed that during the reaction the macromolecule increases in size and bonds are formed between the chains. The sulfur bridges and C-C bonds are formed preferably between the alkyl parts of the macromolecules. The resulting cross-linked polyethyl-

Card 1/2

L 14456-65

ACCESSION NR: AP4047673

phenylene-ethyl is a thermosetting product. The specific viscosity of the initial polymer was 0.0680, that of the cross-linked polymer increased to 0.3614, and the amount of bound sulfur was 5.2%. The lacquer obtained from this polymer contained 100 g of cross-linked polyethyl-phenylene-ethyl, 15 g of plasticizer (dibutyl phthalate) and 240 g of solvent (xylene). It was found that the coating based on this polymer has a high resistance to acids, alkalies, atmospheric oxygen and heat at temperatures above 250C. Samples coated with this lacquer kept for 2 months in concentrated HCl and HNO<sub>3</sub>, 50% H<sub>2</sub>SO<sub>4</sub> and alkali. After drying at 120C for 1 hour, then at 210C for 20 minutes, the films had an attractive gloss, and good strength, elasticity and dielectric properties. Orig. art. has: 15 chemical formulas.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: OC, MT

NO REF SOV: 003

OTHER: 000

Card 2/2

L 54961-65 EWT(m)/EPR(c)/EMP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5014165

UR/0080/65/038/005/1165/1167  
541.6'65

17  
26  
B

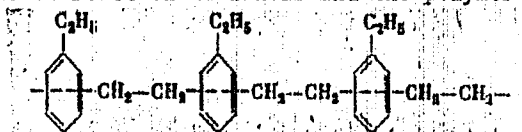
AUTHOR: Yukel'son, I. I.; Kozyreva, Ye. F.; Garmonov, V. I.; Glukhovskoy, V. S.

TITLE: Synthesis and optical properties of polyethylphenylenethy 7

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 5, 1965, 1165-1167

TOPIC TAGS: polycondensation, dichloroethane, polyethylene, polyethylphenylenethy

ABSTRACT: Polyethylphenylenethyl was prepared by polycondensation of 1,2-dichloroethane with ethylbenzene under conditions typical for Friedel-Crafts reactions. At constant conditions an increase in the catalyst ( $AlCl_3$ ) concentration up to a certain level is reflected in an increased molecular weight of the product polymer. The average molecular weight of the polymer increases also with a decrease of the molar ratio of ethylbenzene to dichloroethane. In the case of excess of ethylbenzene the polycondensation reaction is linear and the polymer structure is



Card 1/2



L 54961-65

ACCESSION NR: AP5014165

Maximum of the average molecular weight of the polymer results from equimolar ratio of ethylbenzene to dichloroethane. The ethyl group in the ethylbenzene hinders extensive cross-linking within the polymer. At molar ratios of ethylbenzene to dichloroethane from 1:1 to 0.7:1 the polymer is highly cross-linked, rubber-like, and insoluble in hydrocarbons, alcohols, ketones, and chloroorganic solvents. The photoelectric spectra of polyethylphenylenethyl are typical for branched polymers. The oscillatory character of the maxima of bands for the  $n \rightarrow \pi$  electron transition is explained in terms of the large number of methyl and ethyl groups in polyethylphenylenethyl. Orig. art. has: 2 tables, 3 figures, and 3 formulas.

ASSOCIATION: Voronezhskiy tekhnologicheskii institut (Voronezh Institute of Technology)

SUBMITTED: 20Jun63

ENCL: 00

SUB CODE: CC, DP

NO REF SOV: 004

OTHER: 000

Card 2/2



107-161-001-0704

# The Interaction Between Nickel-Vanadium Alloys and Refractories

To determine the suitable refractory for the nickel-vanadium alloys the interaction between the alloy and the refractory was investigated. Vanadium is a comparatively active metal in the melt and reacts energetically with the refractories at its crucible, bringing impurities into the metal melts. In the reactions mainly VO reacts. In the interaction between VO and the oxides of refractories also  $V_2O_5$  is formed. The lower stability of  $ZrO_2$  as compared to vanadium melts is probably a consequence of the reaction  $2ZrO_2 + V \rightarrow 2Zr_2O_3 + VO$ .

By means of radioactive indicators the character of the interaction between the refractory and the liquid metal alloy with a vanadium content of 10% was determined.  $ZrO_2$  was used as refractory to which the radioactive isotope  $Zr^{95}$  was added. The investigations showed that non-metallic impurities can be avoided only if the melt is not overheated and is left in the state of melting for as short a period as possible.

The reaction products were investigated also by means of x-ray structural analysis to explain the character of the interaction.

Word 244

SOV 161-18-1-10004

The Interaction Between Nickel-Vanadium Alloys and Refractories

tion between the refractory and the liquid nickel-vanadium alloys. This analysis showed that in the interaction between the alloys and the refractory  $ZrO_2$  is reduced to  $Zr$ .

The character of the interaction between the alloys and the refractories of beryllium oxide was not explained by the x-ray structural analysis. Probably only little vanadium oxide is formed in the interaction; this vanadium oxide dissolves in the melt. Beryllium vapor is formed which also dissolves in the metal melt.

Experiments on the interaction of nickel-vanadium alloys and  $Al_2O_3$  were also carried out.

The macro- and microscopic investigation of the surface of zirconium bricks showed that in the melting in zirconium crucibles in the case of a longer period of storage the metal melt penetrates the  $ZrO_2$ . In melting beryllium and alumina oxide in crucibles the interaction between the liquid metal and the refractory is much smaller.

There are 1 figure and 1 reference.

Card 3 4

CONFIDENTIAL

The Interaction Between Nickel-Vanadium Alloys and Refractory

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 1, 1957

Card 4.4

18(4)  
 'AUTHORS: Beljutin, V. I., et al., et al.,  
 Institute of Metals, USSR Academy of Sciences, Moscow, USSR.

TITLE: Fluidity and Density of Nickel-Vanadium Alloys  
 (Izmenchivost' i plotnost' splyavov nikelja s vanadiem)

PERIODICAL: Naukovo-tekhnicheskaya literatura, Moscow, USSR, 1968, No. 4,  
 pp. 12-14, USSR.

ABSTRACT: In order to determine the fluidity of nickel-vanadium alloys of a  
 content of 35, 50, and 65 % of vanadium, the method of pouring the  
 alloys into molds of the Riff-type was chosen. By this method, the  
 tests can be carried out in vacuum or in a neutral atmosphere. The  
 metal was melted in crucibles of beryllium-oxide with argon in a  
 high-temperature resistance furnace with a graphitic carbon heater.  
 A special furnace structure as shown here allowed the metal to be  
 poured into crucibles without disturbing the tightness of the fur-  
 nace. The experimental method of Beljutin and Kaurakh (Ref 6) was  
 employed to determine the specific gravity of the melt. This fur-  
 nace used method is rather simple and reliable. By investigating  
 the fluidity of the nickel alloys of a vanadium content of 35, 50,  
 and 65 % it was found that these alloys showed a rather good fluidity;

Card 1, 2

Fluorinity and Density of Nickel-Vanadium Alloys

DTIC 86-10-1-107

... their fluorinity compared that of stainless steel. The fluorinity of nickel-vanadium alloys of the investigated composition increased with increasing concentration of vanadium. Measurements of the density of nickel-vanadium alloys showed that it was higher ( $\rho_{\text{alloy}} > \rho_{\text{steel}}$ ) than the specific density of the steel samples. There are 3 figures, 1 table, and 1 formula, 2 of which are Soviet.

ASSOCIATION: L. Kharkov Institute of Steel and Iron Steels Institute

SUBMITTED: March 1978

Carl L. L.

The method of studying of hands for detection of  
*Escherichia coli* B. V. Glikhovtzev and A. D. Zontag  
*Voprosy Pitaniya* 4, No. 6, 170-175, 1935. Various  
bio- and chem. tests are discussed. L. H. Kautzman

AS 4 SLA METALLURGICAL LITERATURE CLASSIFICATION



USSR /Microbiology. Medical and Veterinary  
Microbiology.

F-6

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35793

Author : Glukhovtsev, B.V.

Title : Yeast-like Fungi and Their Role in the Spread of  
Some Bacterial Infections

Orig Pub: V sb.: Eksperim. i klinich. issledovaniia II, L,  
Medgiz, 1956, 332-333

Abstract: No abstract.

Card 1/1

USSR Microbiology. Medical and Veterinary  
Microbiology.

F-6

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35785

Author : Glukhovtsev, B.V.; Kurushina, T.M.; Maslova, G.V.

Title : Characteristics of the Yeast Flora in Various  
Skin Infections

Orig Pub: V. sb: Eksperim. i klinich. issledovaniia II, L,  
Medgiz, 1956, 335-336

Abstract: 6232 examinations of persons sick with various  
forms of skin diseases were conducted. In 306  
cases various yeasts, primarily *C.albicans* (113  
cases), and other representatives of the genus  
*Candida* (76 cases) were isolated. In 19% of the  
positive cases fungi of the specie *Trichosporon*  
were isolated. A supposition is expressed about  
the identity of *Trichosporon* and *Geotrichoides*.

Card 1/1

USSR /Microbiology. Medical and Veterinary  
Microbiology.

5-6

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35790

Author : Glukhovtsev, B.V.

Title : The Transmission of the Yeastlike Fungi of the  
Genus Candida

Orig Pub: V sb.: Eksperim. i klinich. issledovaniia II, L,  
Medgiz, 1956, 339-340

Abstract: In experimentally infected guinea pigs and rabbits, yeast-like fungi were isolated from the internal organs of outwardly healthy animals. Mycosis-bearing was studied in people. Representatives of the Genus Candida were isolated from the mouth cavity in 32.5% of the examined school children, from the genitalia of 28% of the women, from the organs of persons who had died from

Card 1/2

USSR /Microbiology, Medical and Veterinary  
Microbiology.

P-6

Abs Jour: Referat. Zh.-Biol., No. 9, 1957, 35790

tuberculosis (in 40% with the hematogenic-disseminating form and 53% in the fibro-cavernous form), in the saliva of persons sick with tuberculosis, and in the contents of the stomach, taken on an empty stomach from persons sick with stomach-intestinal diseases.

Card 2/2

KASHKIN, P.M., GLUKHOVTSEV, B.V., KONDRAT'YEV, A.A., MERCHENKOVA, P.G.,

Some indications of authenticity of the candidal nature of complications  
in antibiotic therapy. Antibiotiki, 3 no.3:118-122 My-Je '58

(MIRA 11:7)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.  
(MONILIASIS, etio., & pathogen.  
antibiotic ther., verification (Rus))  
(ANTIBIOTICS, inj. effects,  
moniliasis, verification (Rus))

GLUKHOVTSEV, B.V.; FROLOVA, M.A.

Microflora dynamics in candidiasis treated by antibiotics. Eksp. i  
klin. issl. po antibiot. 2:106-109 '60. (MIRA 15:5)  
(MONILIASIS) (ANTIBIOTICS) (MEDICAL MICROBIOLOGY)

GLUKHOVTSEV, G. D.

PA 190T68

USSR/Medicine (Veterinary) - Infectious Diseases Mar 51

"Aluminum Hydroxide Formol Vaccine Against Swine Erysipelas," G. D. Glukhovtsev, Cand Vet Sci, State Sci Control Inst of Vet Prepn

"Veterinariya" Vol XXVIII, No 3, pp 47-52

Aluminum hydroxide formol vaccine against swine erysipelas established immunity for 6 mo, does not produce undesirable side effects, and remains suitable for use during 1 yr after prepn.

190T68

GLUKHOVTSEV, G.D., kandidat veterinarnykh nauk.

Methods of active prophylaxis of swine erysipelas. Trudy Gos.  
nauch.-kont.inst.vet.prep. 4:236-245 '53. (MLRA 7:10)  
(Swine--Diseases) (Erysipelas--Preventive inoculation)



USSR / Microbiology. Microbes, Pathogenic to Man and  
Animals. General Problems.

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19537

Author : Glukhovtsev, G. D.  
Inst : State Scientific-Control Institute of  
Veterinary Preparations  
Title : Serological Standardization of Erysipelas  
Strains in Swine

Orig Pub : Tr. Gos. nauchno-kontrol'n. in-ta vet.  
preparatov, 1957, 7, 230-236

Abstract : To select immunogenic strains, the author  
applied the hemagglutination reaction (HAR).  
It was demonstrated that strains, producing  
HAR in dilutions of 1 : 32, 1 : 64 and  
higher, possess immunogenic properties.  
Standard agglutinating sera were obtained by

Card 1/2

QUESTIONS, 1981: 1981, 1981, 1981, 1981, 1981

Specificity of response to stimulation of the  
startling reflex in the rat. The results of the  
1. A summary of the results of the study of the  
Goswami et al. (1981) study of the startle reflex in the rat.  
The results of the study of the startle reflex in the rat.  
The results of the study of the startle reflex in the rat.

GLUKHOVTSEV, L.V.; ZAKHAROVA, S.V.

Preparation of furan dialdehydes. Izv. AN SSSR. Ser. khim. no. 2:  
390-391 F '64. (MIRA 17:3)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

GLUKHOVTSEV, S.; ZAKHAROV, S., inzh.

Homemade flotilla. Tekh.mol. 28 no.10:16 '60.

(MIRA 13:10)

1. Nachal'nik Tsentral'noy morskoy model'noy laboratorii Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (for Glukhovtsev).  
(Ship models)

GLUKHOVTSEV, S., sud'ya respublikanskoy katerorii sorevnovaniy

Starting and controlling models. Voen.znan. 37 no.6:30 Ja '61.  
(MIRA 14:6)

(Motorboats--Models)

GLUKHOVTSEV, S.A.; DERBEDENEV, G.A., redaktor; MONTYAN, T.P., tekhnicheskii redaktor

[The seaworthiness of a ship; aids for student organizations, All-Union Volunteer Society for Assistance to the Army, Air Force, and Navy groups and builders of ship models] Morekhnodnye kachestva korablia; posobie dlia uchebnykh organizatsii, kruzhtov Dosaaf i morskikh modelistov. Moskva, Izd-vo Dosaaf, 1954. 26 p. (MIRA 8:5)  
(Ship models)

GLUKHOVTSEV, S.A.

3646. GLUKHOVTSEV, S.A. Morekhodnyye Kachestva Koraclya. Posociya dlya uchec. organizatsiy, kruzhkov DUSAAF i morskikh modelistov. M., Izd-vo DUSAAF. 1954. 28s. s ill; 1L. chart. 20sm 5,000ekz. 1r. 15k.-(54-57997) P 629.12 (086.5) 629.12.07

SO: Knizhnaya Letopis', Vol. 3, 1955

GLUKHOVTSEV, S.

What to start with. Voenn. znan. 31 no. 4: 3 Ap '55. (MLHA 8:10)

1. Nauchal'nik Tsentral'noy laboratorii morskogo modelizma Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR  
(Ship models)



GLUKHOVTSEV, S., chlen zhyuri konkursa.

Competition for the best motors for ship models. Voen. znan. 31

no. 7:11 31'55.

(MLRA 8:12)

(Marine engines--Models)

GLUKHOVTSEV, S.

Advices to builders of ship models. Voen.znan. 31 [i.e. 32] no.4:  
25 Ap '56. (MLRA 9:8)

1. Nachal'nik Tsentral'noy laboratorii morskogo modelizma Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.  
(Ship models)

GLUKHOVTSEV, S.

Wider road to the "little fleet." Voen.znan. 31 no.9:19 S '56.

(MIRA 9:11)

1. Nachal'nik Tsentral'noy laboratorii morskogo modelizma Dobrovol'-  
nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.  
(Ship models)

GLUKHOMTSKY, S.A.; IGUSHIN, M., redaktor; MUNTIAN, T.P., tekhnicheskii  
redaktor

[Seagoing properties of vessels; handbook for educational organizations of associations of the All-Union Volunteer Society for Assistance to the Army, Air Force, and Navy and for naval modelmakers]  
Morekhodnye kachestva korablia; posobie dlia uchebnykh organizatsii, kruzhkov DOSAAF i morskikh modelistov. Moskva, Izd-vo DOSAAF, 1957.  
28 p. (MIA 10:10)

(Ships--Models)

GLUKHOVTSKY, S.

New competition rules for model ship builders. Voen. znan. 33 no.3:31  
Mr '57. (MIRA 10:6)

1. Nachal'nik Tsentral'noy laboratorii morskogo modelizma Dobrovol'nogo  
obshchestva sodeystviya armii, aviatsii i flotu SSSR.  
(Ship models)

GLUKHOVTSEV, S.

Some results of model building contests. Voen. znan. 34 no.1:32  
Ja '58. (MIRA 11:2)

(Ship models)

GLUKHOVTSEV, S.

Basin for model boat contests. Voen.znan. 34 no.7:31 Mr '53.

(MIRA 11:4)

1. Nachal'nik Tsentral'noy laboratorii morskogo modelizma Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.  
(Ship models)

GLUKHOVTSEV, S.

The new All-Union classification of ship models. Voen. znan. 35  
no. 7:34 J1 '59. (MIRA 12:12)

1. Nachal'nik Tsentral'noy laboratorii morskogo modelizma Dobro-  
vol'nogo obshchestva sodeystviya armii, aviatsii i flotu SSSR.  
(Ships--Models)



GLUKHOVSEV, S., sud'ya respublikanskoy kategorii, glavnyy sud'ya vsesoyuznykh  
sorevnovaniy.

Contests among "model fleet" builders. Voen. znaniya. 35 no.10:36-37  
O '59. (MIRA 12:12)  
(Ships--Models)

VESELOVSKIY, A.I.; GLUKHOVTSEV, S.A.; ZAKHAROV, S.N.; KRIVONOSOV, L.M.;  
GRIGOR'YEVA, A.I., red.; KARYAKINA, M.S., tekhn.red.

[Ship models] Morskoj modelizm. Moskva, Izd-vo DOSAAF, 1960.  
316 p. (MIRA 13:11)  
(Ship models)

GLUKHOVTSEV, S.

Controlling a yacht model by radio. Voenn. znaniya. 36 no.1:35 Ja '60.  
(MIRA 12:12)

1. Nachal'nik Tsentral'noy laboratorii morskogo modelizma Dobrovol'nogo  
obshchestva sodeystviya armii, aviatsii i flotu SSSR.  
(Yachts and yachting--Models)

62 KMOVT 32.4, V. G.

Reaction of unsaturated silacyclopentanes with dialkyl dithiophosphoric acids. A. D. Petrov, V. F. Mitin, and V. G. Chukhrovskiy (N. D. Zelinsky Inst. Org. Chem., Acad. Sci. USSR, Moscow). *Doklady Akad. Nauk S.S.S.R.*, 93, 488-501 (1954); c) A. D. Petrov and S. V. Shilovskaya, *Chem. Abstr.*, 48, 5531. --Addn. of  $(RO)_2PS_2H$  to vinyl and allylsilanes was studied. The products are believed to have the following structures:  $R_2SiCH_2CH_2SP(SiOR)_2$  and  $R_2SiCH_2CH_2MeSP(SiOR)_2$  for the vinyl and the allyl derivs., resp. The products are generally distillable in good vacuum at about 120-50°, but suffer decolouration at higher temps. The di- and tri-addn. products, formed from the corresponding unsatd. silanes cannot be distd. without decompn. It is noted that the products, in their stability, resemble the adducts of CNSH to the silanes, rather than those of the halogens. The prepn. is performed as follows. Heating 203 g.  $Et_2SiCH_2CH_2Cl$  and 400 g. 20% KOH in EtOH in an autoclave 9 hrs. at 150-60° gave after diln. 50%  $Et_2SiCH_2CH_2H$ , b.p. 145.2-6.4°. The necessary allyl silanes were prepd. by the previously described method (Petrov, *et al.*, *Chem. Abstr.*, 47, 10471f); in each case the mkt. of allyl halide with the halo-silane was added to 2-fold excess of Mg. The unsatd. silane (5-10% excess) was treated dropwise with  $(RO)_2PS_2H$  keeping the temp. about 50°; after further heating 5-6 hrs. at 50° the products were distd. in *vacuo*. The undistillable products were purified by washing with alkali or by distn. of low b. materials. While the allylsilanes react exothermically, the vinyl analogs react slowly and without a heat effect. In the following examples the starting materials, % yield, formula of product, b.p./mm.,  $n_D^{20}$ , and  $d_4^{20}$  are given:  $Me_2SiCH_2CH_2Cl$  (I),  $(MeO)_2PS_2H$ , 71.2,  $C_4H_{10}P_2S_2O_2$ , 115-17°/3, 1.5045, 1.0666; I,  $(EtO)_2PS_2H$ , 75,  $C_6H_{14}P_2S_2O_2$ , 91°/1, 1.4940, 1.0201; I,  $(PrO)_2PS_2H$ , 75.3,  $C_8H_{18}P_2S_2O_2$ , 124°/2.5, 1.4913, 1.0100; I,

$(n\text{-}PrO)_2PS_2H$ , 75.3,  $C_{10}H_{22}P_2S_2O_2$ , 119-30°/2.5, 1.4820, 0.9044,  $Et_2SiCH_2CH_2Cl$  (II),  $(MeO)_2PS_2H$ , 49,  $C_4H_{10}P_2S_2O_2$ , 110-5°/6.5, 1.4884, 1.0340; II,  $(EtO)_2PS_2H$ , 58,  $C_6H_{14}P_2S_2O_2$ , 134°/1, 1.4992, 1.0462; II,  $(PrO)_2PS_2H$ , 84.6,  $C_8H_{18}P_2S_2O_2$ , 150°/1, 1.499, 1.049;  $PhSi(CH_3)_2CH_2CH_2Cl$ ,  $(MeO)_2PS_2H$ , 86,  $C_{10}H_{18}P_2S_2O_2$ , 102-5°/1, 1.4908, 1.0179;  $PhSi(CH_3)_2CH_2CH_2Cl$ ,  $(EtO)_2PS_2H$ , 70,  $C_{12}H_{22}P_2S_2O_2$ , 120.5°/0.5, 1.5090, 1.0430;  $MeSi(CH_3)_2CH_2CH_2Cl$ ,  $(MeO)_2PS_2H$ , 75,  $C_6H_{14}P_2S_2O_2$ , 130°/1, 1.4700, 1.0201;  $MeSi(CH_3)_2CH_2CH_2Cl$ ,  $(EtO)_2PS_2H$ , 75,  $C_8H_{18}P_2S_2O_2$ , 150°/1, 1.4885;  $MeSi(CH_3)_2CH_2CH_2Cl$ ,  $(PrO)_2PS_2H$ , 75,  $C_{10}H_{22}P_2S_2O_2$ , 150°/1, 1.4952, 1.0415;  $MeSi(CH_3)_2CH_2CH_2Cl$  (III),  $(MeO)_2PS_2H$ , 80,  $C_4H_{10}P_2S_2O_2$ , 150°/1, 1.4908, 1.0179;  $(EtO)_2PS_2H$ , 80,  $C_6H_{14}P_2S_2O_2$ , 150°/1, 1.4908, 1.0179;  $Si(CH_3)_3CH_2CH_2Cl$  (IV),  $(MeO)_2PS_2H$ , 75,  $C_4H_{10}P_2S_2O_2$ , 111°/0.5, 1.5102, 1.0377; IV,  $(EtO)_2PS_2H$ , 80,  $C_6H_{14}P_2S_2O_2$ , 135°/0.5, 1.5031, 1.0358. For comp. of refraction, the value for the group  $Si(CH_3)_2CH_2CH_2SP(SiOR)_2$  was found to be 53.35 ml./mole; the increment per  $CH_2$  group is 4.13.

G. H. Kiselev

GLUKHOVTSOV, V. G.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 40 - 26/27

Authors : Petrov, A. D.; Mironov, V. F.; and Glukhovtsev, V. G.

Title : The synthesis of diallyl silanes

Periodical : Izv. Akd. Nauk SSSR. Otd. khim. nauk 6, 1123-1124, Nov-Dec 1954

Abstract : Data are presented regarding the synthesis of four new diallyl silanes including three with aryl radicals. The chemical characteristics of a hitherto unknown alpha-naphthylmethyldichlorosilane are described. Five references: 4 USSR and 1 USA (1949-1954). Table.

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Institute of Organ. Chemistry

Submitted : July 12, 1954

Bluttsco, 1.0.

Synthesis and properties of 1,1- and 1,2-bis(trimethylsilyl)ethylenes and 2-chlorovinyltrimethylsilane. V. F. Minin, V. G. Glukhovtsev, and A. D. Petrov (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). Doklady Akad. Nauk S.S.S.R. 104, 865-8 (1955).—Chlorination of 343 g.  $(CH_3)_3SiCHClCH_2Si(CH_3)_3$  to a reflux temp. of 221° (26 hrs.) gave 230 g.  $Cl_2SiCHClCH_2Si(CH_3)_3$ , b. 234-5°,  $n_D^{20}$  1.4915,  $d_4^{20}$  1.5774. Similar chlorinations yielded: 88.5% (combined)  $Me_3SiCH_2CH_2Si(CH_3)_3$ , b. 170.8°,  $n_D^{20}$  1.4640, and  $Cl_2CHCHClCH_2Si(CH_3)_3$ , b. 181°,  $n_D^{20}$  1.4850,  $d_4^{20}$  1.5156, from  $Me_3SiCH_2CH_2CH_2Si(CH_3)_3$  from  $ClCH_2CH_2Si(CH_3)_3$  was formed 92.5% (combined)  $ClCH_2CHClCH_2Si(CH_3)_3$  and  $Cl_2CHCH_2CH_2Si(CH_3)_3$ . Distn. of 107 g.  $Cl_2SiCHClCH_2CH_2Si(CH_3)_3$  and 85 g. quinoline gave 74%  $Cl_2SiCH_2CH_2CH_2Si(CH_3)_3$ , b. 190-1°, m. 36.1°, with  $Et_3NPh$  gave 50% yield. Similar dehydrochlorinations gave: 61% (combined)  $CH_2=CCSi(CH_3)_3$ , b. 124°,  $n_D^{20}$  1.4043,  $d_4^{20}$  1.4243; and  $ClCH=CHSi(CH_3)_3$ , b. 123°,  $n_D^{20}$  1.4745,  $d_4^{20}$  1.4364. The latter with  $MeMgI$  gave 62%  $ClCH=CHSiMe_3$ , b. 116.6°,  $n_D^{20}$  1.4380,  $d_4^{20}$  0.8921; similarly prepd.  $Me_3SiCH=CHSiMe_3$ , b. 104°. Reaction of 1 mole was 61%  $CH_2=CCSiMe_3$ , b. 104°. Reaction of 1 mole  $MeMgI$  with 42 g.  $(:CHSi(CH_3)_3)_2$  gave 89.5%  $(:CHSiMe_3)_2$ , b. 145.5°,  $n_D^{20}$  1.4310,  $d_4^{20}$  0.7689; 70% by Wurtz reaction with Na,  $Me_3SiCl$  (in  $Et_2O$ -ligroine with a little  $EtOAc$ ) and  $CHCl_3:CHSiMe_3$ ,  $(:CHSi(CH_3)_3)_2$  and  $EtMgBr$  gave 76.6%  $(:CHSiMe_3)_2$ , b. 262-3°,  $n_D^{20}$  1.4615,  $d_4^{20}$  0.8226. A Wurtz reaction of 9 g. Na (in  $MePh$ ) with 20 g.  $Me_3SiCl$ , 1.5 ml.  $EtOAc$ , and 24.5 g.  $CH_2=CCSiMe_3$  gave 46.5%  $CH_2=C(SiMe_3)_2$ , b. 150-1°,  $(:CHSiMe_3)_2$  (11.4 g.) at -70° treated with 10.6 g. Br yielded after 3 days standing  $(CHBrSiMe_3)_2$ , sepd. into isomers, m. 28° and b. 109°, m. 7-10°,  $n_D^{20}$  1.5005,  $d_4^{20}$  1.3636, which fumes in air. G. M. Kosolapoff

M. A. 40072

C. P. C. S.

GLUKHOTOV, V. B.

GLUKHOTOV, V. B. -- "The Synthesis and Properties of Unsaturated Silenes and Disilanes." Academy of Science USSR, Institute of Organic Chemistry imeni N. D. Zelinskii, Moscow, 1950. (Dissertation for the Degree of Candidate of Chemical Sciences)

SO: Knizhnyy Letopis' No 44, October 1, 50, Moscow

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Khim - Kulmiza, No 1, 1957, 1957

Author: Petrov, A. D., Mironov, V. F., and Glukhovtsev, V. G.

Institution: Academy of Sciences USSR

Title: Wurtz-type Synthesis of Organosilicon Compounds with a Double Bond in the  $\alpha$ -Position

Original  
Periodical: Izv. AN SSSR, Section on Chemical Sciences, 1956, No 4, 461-466

Abstract: The condensation of trialkylchlorosilanes with derivatives of  $\text{CH}_2 = \text{CHCl}$  (I) with the aid of Na and in the presence of ethyl acetate gives high yields of organosilicone compounds with  $\alpha$ -positioned double bonds. The condensation of  $\text{SiCl}_4$  (II) with I under such conditions yields  $(\text{CH}_2 = \text{CH})_2\text{Si}$  (III), while  $(\text{CH}_3)_2\text{C} = \text{CHBr}$  (IV) and  $\text{CH}_3\text{CHBr}$  (V) condensed with  $\text{ClSi}(\text{CH}_3)_2\text{C}_2\text{H}_5$  (VI) yield  $(\text{CH}_3)_2\text{C} = \text{CHSi}(\text{CH}_3)_2\text{C}_2\text{H}_5$  (VII) and  $\text{CH}_3\text{CH} = \text{CHSi}(\text{CH}_3)_2\text{C}_2\text{H}_5$  (VIII). Reaction of  $(\text{CH}_3)_3\text{SiCH} = \text{CHCl}$  (IX) and  $(\text{CH}_3)_3\text{SiCH} = \text{CH}_2$  (X) with  $\text{ClSiR}_3$  (XI), where  $\text{R} = \text{CH}_3$ , yields  $[(\text{CH}_3)_3\text{SiCH} = \text{CH}]_2$  (XII) and  $[(\text{CH}_3)_3\text{Si}]_2\text{C} = \text{CH}_2$  (XIII). Condensation of

Card 1/5



USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No. 1, 1977, 144

Abstract:  $\text{CH}_3\text{CCl} = \text{CHCH}_2\text{OH}$  (XIV) with XI in the presence of pyridine yields  $\text{CH}_3\text{CCl} = \text{CHCH}_2\text{OSiR}_3$  (XV) which, when reacted with XI in the presence of Na, forms  $\text{R}_3\text{SiC}(\text{CH}_3) = \text{CHCH}_2\text{OSiR}_3$  (XVI); XVI can be hydrolyzed to  $\text{R}_3\text{SiC}(\text{CH}_3) = \text{CHCH}_2\text{OH}$  (XVII). The latter reacts with  $\text{CH}_2 = \text{CHCN}$  (XVIII) to give  $\text{R}_3\text{SiC}(\text{CH}_3) = \text{CHCH}_2\text{OCH}_2\text{CH}_2\text{CHCN}$  (XIX). The  $\text{CH}_2 = \text{CH}$  group in III does not show activation with MR. The characteristic frequency of  $\text{CH}_2 = \text{CH}$  in the spectra of III and  $(\text{C}_6\text{H}_5)_3\text{SiCH} = \text{CH}_2$  is 1,272, 1,424, 1,394, and 1,354  $\text{cm}^{-1}$ . To 140 gms of dispersed Na in 300 ml of ether and 250 gms of II are added 3-5 ml ethyl acetate; a stream of I is passed through the boiling ether for 1 hour. The yield of III is 65%, bp 130.2°/740.1 mm,  $n_D^{20}$  1.4625,  $d_4^{20}$  1.3999. The chlorination of 2 kg of  $(\text{C}_6\text{H}_5)_3\text{SiCl}_3$  gives a conversion of 93% to a mixture of  $\text{ClCH}_2\text{CH}_2\text{SiCl}_3$  (XX), bp 151.7°/751 mm,  $n_D^{20}$  1.4652,  $d_4^{20}$  1.4239, and  $\text{CH}_3\text{CHClSiCl}_3$  (XXI), bp 135.5°/740.5 mm,  $n_D^{20}$  1.4845,  $d_4^{20}$  1.3912, in the ratio 1:1.5. The chlorination of XXI at 125° gives an 85% conversion to a 1:0.6 mixture of  $\text{CH}_3\text{CCl}_2\text{SiCl}_3$  and  $\text{CH}_2\text{ClCHClSiCl}_3$  (XXII) (bp 140°/745 mm,  $n_D^{20}$  1.5458,  $d_4^{20}$  1.4161). The chlorination of XX at 140° results in a 93% conversion to a not easily separable mixture of XXII and  $\text{CHCl}_2\text{CH}_2\text{SiCl}_3$  (XXIII); the

Card 2/5

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1977, 202

Abstract: mixture boils at 115-120°C. From  $(\text{Cl}_3\text{Si})_2\text{CHCH}_3$  it is possible to obtain  $(\text{Cl}_3\text{Si})_2\text{CHCH}_3$  in yields of 44%, bp 224.0/741 mm,  $n_D^{20}$  1.4372,  $d_4^{20}$  1.0926; when  $\text{HCl}$  is split off,  $(\text{Cl}_3\text{Si})\text{CH} = \text{CH}_2$  is formed, bp 199-200°C/4 mm,  $n_D^{20}$  1.4255. When  $\text{HCl}$  is evolved in the presence of dimethyl aniline from a mixture of XXII and XXIII, a 60% conversion to  $\text{Cl}_3\text{SiCH} = \text{CH}_2$  (XXIV), bp 199/741 mm,  $n_D^{20}$  1.4245,  $d_4^{20}$  1.0904, and  $\text{Cl}_3\text{SiCH}_2 - \text{CH}_3$  (XXV), bp 124.0/741 mm,  $n_D^{20}$  1.4025,  $d_4^{20}$  1.0723, is obtained; the ratio of the products is 1:1.3. From 10 gms of XXV and  $\text{CH}_3\text{MgI}$  (45 gms  $\text{Mg}$ , 350 gms  $\text{CH}_3\text{I}$ , in 0.5 l ether, refluxing for 5 hours) X is prepared in yields of 60%, bp 110.0; by the same method,  $\text{CH}_3 - \text{C}(\text{Cl}_3\text{Si})(\text{C}_2\text{H}_5)_2$  is prepared from XXV and  $\text{C}_2\text{H}_5\text{MgBr}$ , yield 76.5%, bp 142-143°C/130 mm,  $n_D^{20}$  1.4555,  $d_4^{20}$  0.9166. Reaction of XXIV with  $\text{CH}_3\text{MgI}$  gives IX, yield 77%, bp 116.60/741 mm,  $n_D^{20}$  1.4350,  $d_4^{20}$  0.8924. A dispersion of 9 gms Na in 0.5 l ether is prepared; 20 gms XI ( $\text{R} = \text{CH}_3$ ), 1.2 ml X, and 1.2 ml of ethyl acetate are added. After the start of the reaction an additional 23.5 gms of X are added and the mixture refluxed 2.5 hours. The yield of III is 46.5%, bp 151.60/756.5 mm,  $n_D^{20}$  1.4514,  $d_4^{20}$  0.9135. From 10 gms Na, 20 gms XI ( $\text{R} = \text{CH}_3$ ), and 27 gms IX, XII is prepared in yields of 70%, bp 145.0/740 mm.

Card 3/5

USSR/Organic Chemistry - Synthetic Organic Chemistry, R-1

Abst Journal: Referat Khim - Khimiya, No 1, 1975, p. 1

Abstract:  $n_D^{20}$  1.4316,  $d_4^{20}$  0.7712. From 17 gms III, 41 gms VI, one milliliter ethyl acetate, and 47 gms IV, VII is prepared in yields of 51.1%, bp 139.5°/743 mm,  $n_D^{20}$  1.4301,  $d_4^{20}$  0.7649; V and VI give VIII, yield 32.5%, bp 139.5°/743 mm,  $n_D^{20}$  1.4301,  $d_4^{20}$  0.7649. When a mixture of 52 gms XI (R = CH<sub>3</sub>) and 50 gms XIV is refluxed for 4 hours, XV (R = CH<sub>3</sub>) is obtained, yield 60%, bp 139.5°/743 mm,  $n_D^{20}$  1.4301,  $d_4^{20}$  0.7649. To a mixture of 101 gms XI (R = CH<sub>3</sub>), 100 gms pyridine, and 100 ml C<sub>6</sub>H<sub>6</sub>, 100 gms XV are added and the mixture allowed to stand for 1.5 hours. The yield of XV (R = CH<sub>3</sub>) is 91.5%, bp 139.5°/743 mm,  $n_D^{20}$  1.4301,  $d_4^{20}$  0.7649. To 100 gms III, 100 ml ethyl acetate, and 100 gms XI (R = CH<sub>3</sub>), 28.5 gms XV are added over a period of 1.5 hours after the initiation of the reaction with ethyl acetate. After heating for 3 hours XVI (R = CH<sub>3</sub>) is obtained, yield 60%, bp 139.5°/743 mm,  $n_D^{20}$  1.4309,  $d_4^{20}$  0.7609. XV (R = C<sub>2</sub>H<sub>5</sub>) and XI (R = C<sub>2</sub>H<sub>5</sub>) give XVI (R = C<sub>2</sub>H<sub>5</sub>), yield 52%, bp 139.5°/743 mm,  $n_D^{20}$  1.4309,  $d_4^{20}$  0.7616. When 16 gms XI (R = CH<sub>3</sub>) in 20 ml alcohol are refluxed with 30 ml water and 1 drop HCl for 8 hours, XVII (R = CH<sub>3</sub>) is obtained, yield 60%, bp 139.5°/743 mm,  $n_D^{20}$  1.4300,  $d_4^{20}$  0.7606. The saponification of XVI (R = C<sub>2</sub>H<sub>5</sub>) yields XVII (R = C<sub>2</sub>H<sub>5</sub>), yield 50%, bp 139.5°/743 mm,  $n_D^{20}$  1.4300,  $d_4^{20}$  0.7606.

Card 4/5

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 948

Abstract: From XVII (R = CH<sub>3</sub>) and XVIII, XIX (R = CH<sub>3</sub>) can be prepared in the presence of CH<sub>3</sub>ONa, yield 80%, bp 65°/6 mm,  $n_D^{20}$  1.4610,  $d_4^{20}$  0.9153. XVII (R = C<sub>2</sub>H<sub>5</sub>) and XVIII give XIX (R = C<sub>2</sub>H<sub>5</sub>), yield 85%, bp 113°/2 mm,  $n_D^{20}$  1.4732,  $d_4^{20}$  0.9219.

Card 5/5

Dehydrochlorination of diisopropylchlorosilane and methylation of chloropropylchlorosilane. D. Paton, V. M. Mironov, and V. G. Gubaydar, *Zhurnal Fiz. Khim.*, 49, 3755 (1975). *Doklady Akad. Nauk S.S.S.R.*, 110, 83-84 (1958). *PrMgBr* from 780 g. iso-PrBr and 1500 g.  $\text{SiCl}_4$  gave 520 g. iso-PrSiCl<sub>3</sub>, b<sub>m</sub> 119°, n<sub>D</sub> 1.4005, d<sub>4</sub> 1.1224 (20°), etc. are also used below). This chlorosilane finally at 148° (cf. P. Mironenko and Mironov, *C.A.*, 49, 3755c) gave (after 48 hrs.) 230 g. starting material, 310 g.  $\text{Me}_2\text{CClSiCl}_3$  (I), b<sub>m</sub> 151°, and 580 g.  $\text{ClCH}_2\text{CH}_2\text{MeSiCl}_3$  (II), b<sub>m</sub> 144°, 1.4070, 1.3520. I (74 g.) and 64 g. quinoline distd. up to 220° gave 13 g.  $\text{CH}_3\text{CMe}_2\text{SiCl}_3$  (IV), b<sub>m</sub> 113.5°, 1.4453, 1.2285; distn. of II with a little  $\text{SiCl}_4$  gave about 45% vinyl deriv. Heating 230 g. I, 155 g.  $\text{SO}_2\text{Cl}_2$ , and 0.5 g.  $\text{Bz}_2\text{O}_2$  10 hrs. with 3 addns. of  $\text{Br}_2$  (0.5 g. each) gave 101 g. I and 92 g. not quite pure  $\text{ClCH}_2\text{CHMeSiCl}_3$  (III), b<sub>m</sub> 188.5°, h. 188.5°, n<sub>D</sub> 1.4848, m. 23-7°; chlorination of II gave the same material, b<sub>m</sub> 191°, n<sub>D</sub> 1.4840, m. +7 to +13°, indicating a mixt. Heating 303 g. Ia with 280 g.  $\text{SO}_2\text{Cl}_2$  and 0.5 g.  $\text{Bz}_2\text{O}_2$  8 hrs. gave 116 g.  $\text{CH}_3\text{CHCHMeSiCl}_3$  (IV), b<sub>m</sub> 192.5°, 1.4833, 1.4730, and 137 g.  $\text{ClCH}_2\text{CH}_2\text{CHMeSiCl}_3$  (V), b<sub>m</sub> 205°, 1.4940, 1.4947; III distd. with quinoline gave 36%  $\text{CHCl}_2\text{CMe}_2\text{SiCl}_3$  (VI), b<sub>m</sub> 164°, 1.4816, 1.3830, while IV gave 29% of the same product, b<sub>m</sub> 153°, 1.4780, 1.3820. V and quinoline gave 38.5%  $\text{ClCH}_2\text{CH}_2\text{CHMeSiCl}_3$ , b<sub>m</sub> 164°, 1.4794, 1.3907, which with  $\text{MeMgCl}$  gave 45.5%  $\text{CH}_3\text{CMe}_2\text{SiMe}_3$ , b<sub>m</sub> 110°, 1.4195, 0.7483. VI and  $\text{MeMgCl}$  gave 65%  $\text{ClCH}_2\text{CMe}_2\text{SiMe}_3$  (VII), b<sub>m</sub> 137.5°, 1.4600, 0.9045. Reaction of 20 g.  $\text{Me}_2\text{SiCl}_2$ , 10 g. powd. Na, 1 ml. EtOAc, and 27 g. VII in  $\text{Et}_2\text{O}$  gave in 5 hrs. 15.5 g.  $\text{Me}_2\text{SiCH}_2\text{CMe}_2\text{SiMe}_3$ , b<sub>m</sub> 163.5°, 1.4435, 0.7800.

G. M. Kozlov

PETROV, A.D.; MIROMOV, V.F.; GLUKHOVTSEV, V.G.; YEGOROV, Yu.P.

Synthesis and properties of some of the bis-(trimethylsilyl)  
propylenes. Izv. AN SSSR. Otd. khim. nauk no.9:1091-1100 S '57.  
(MIRA 10:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Propane)

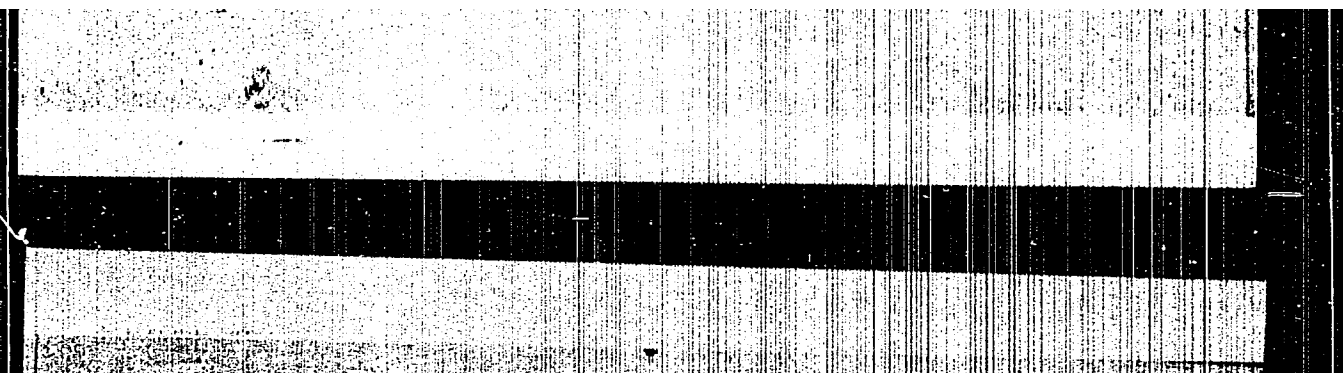
GLUKHOTOVSEN, U.G.

Distr: 4E1j/4E2c(j)/4E3d

1. Synthesis of  $\alpha$ -chloro- $\beta$ -trifluoromethyl-1-phenyl-1-propyne. Aniline, and other unreactivated aromatic compounds (toluene, A. D. Ratny, V. E. Kurny, and V. G. Galkovskiy (Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow), *Dokl. Akad. Nauk SSSR*, 239: 1016 (1978); *Khim.* 27: 1635-6 (1967); *R. C. A.* 20: 1604 (1967)) + 2 to 3 g. Na in finely divided state under  $\text{H}_2\text{O}$  there was added 60 g.  $\text{Mg}$ ,  $\text{SiCl}_4$ , 6 ml. 1-chloro-2,2,2-trifluoroethane, and 1 ml.  $\text{EtOAc}$ ; after a reaction had commenced, 80 g. 1-chloro-2,2,2-trifluoroethane was added over 2 hrs. yielding 60 g. 1-phenyl-1,2,2-trifluoro-3-chloro-1-propyne, bp 171.5°,  $n_D^{20}$  1.4628,  $d_4^{20}$  0.8551, Raman spectrum ( $\text{cm}^{-1}$ ) 2194(s), 2041(s), 1998(2), 1321(s), 855(s), 691(s), 404(1).

**"APPROVED FOR RELEASE: 09/24/2001**

**CIA-RDP86-00513R000515420009-5**



**APPROVED FOR RELEASE: 09/24/2001**

**CIA-RDP86-00513R000515420009-5"**



KORSHAK, V.V.; POLYAKOVA, A.M.; SAKHAROVA, A.A.; PETROV, A.D.;  
MIRONOV, V.F.; GLUKHOVTSEV, V.G.; NIKISHIN, G.I.

Polymerization of unsaturated silicon organic compounds under  
pressure. Part 4: Mono- and disilanes. Zhur. ob. khim. 27 no.9:  
2445-2449 S '57. (MIRA 11:3)

1. Institut elementoorganicheskikh soyedineniy i Institut  
organicheskoy khimii AN SSSR.  
(Silane) (Polymerization)

AUTHORS: Meshcheryakov, A. P., Glukhovtsev, V.G. 62-58-6-85/57

TITLE: The Synthesis of 1-Cyclopropyl-2-Cyclohexylcyclopropane  
(Sintez 1-tsiklopropil-2-tsikloheksiltsiklopropana)

PERIODICAL: Investiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk,  
1958, Nr 6, pp. 700 - 705 (USSR)

ABSTRACT: In the present paper the authors describe a method of contact-  
ization which they worked out for 1-cyclopropyl-2-cyclohexyl-  
cyclopropane. Besides, the authors tried to obtain 1-cyclopropyl-  
-2-hexylcyclopropane from "evantovay" aldehyde (?) and methyl-  
cyclopropylketone under the same conditions. Instead of an  
 $\alpha$ -octenylcyclopropyl ketone, tetradecene-6-on-3 was, however,  
obtained. A new method of obtaining p-chlorine-2-pentanone from  
acetopropylalcohol and hydrochloric acid was worked out. The  
condensation of methylcyclopropylketone under the action of  
catalysts (alcoholic KOH,  $C_2H_5ONa$ ,  $Ba(OH)_2$ ,  $Ca(OH)_2$ ,  $Na$ ,  $NaOH$ ,  
KOH) was investigated. 2,4,6-tricyclopropyl-2,4-epoxyhexan-6-  
was obtained. There are 7 references, 1 of which is Soviet.

Card 1/2

The Synthesis of 1-Cyclopropyl-2-Cyclohexylcyclopropane SSU/62-18-6-22

ASSOCIATION: Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk  
SSSR (Institute of Organic Chemistry imeni N.D.Zelinskii, AC USSR)

SUBMITTED: January 21, 1958

1. Propanes--Synthesis 2. Ketones--Condensation 3. Alcohols  
--Chemical reactions 4. Hydrochloric acid--Chemical reactions  
5. Catalysts--Performance

Card 2/2

5 (3)  
 AUTHORS: Meshcheryakov, A. P., Glukhoytsev, V. G. SOV/62-59-3-28/42  
 TITLE: Preparative Method for the Synthesis of Methylcyclopropylketone  
 PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye Khimicheskikh nauk.  
 1959. Nr 8. pp 1490-1492 (USSR)  
 ABSTRACT: First of all a survey of the development of the preparative method for the above mentioned compound is given and the following Soviet scientists are cited: Idz'kovskaya and Vagner (Ref 11), Dem'yanov and Pinegin (Ref 12), Rozanov (Ref 15), Slobodin and Shokhor (Ref 16), Zelinskiy and Ben'gin (Ref 18), D'yakonov (Ref 19). Acetopropylchloride was synthesized as the initial product for the ensuing synthesis of methylcyclopropylketone. In the course of this process the method used up to now could be improved so as to permit a yield of 76% instead of 64%. Methylcyclopropylketone was obtained from acetylchloride and caustic potash with a yield of 95% compared to the maximum yield of 76% which has so far been obtained. A description of the syntheses and the physical data of the materials obtained are given in the experimental part. There are 27 references, 11 of which are Soviet.

Card 1/2

Preparative Method for the Synthesis of Methyl-  
cyclopropylketone

SOV/62-59-3-28/42

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk  
SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy,  
Academy of Sciences, USSR)

SUBMITTED: February 9, 1959

Card 2/2

77088  
201/62-59-12-32/43

15.3400

AUTHORS:

Freydlin, L. Kh., Meshcheryakov, A. P., Gorshkov, V. I., and Glukhovtsev, V. G.

TITLE:

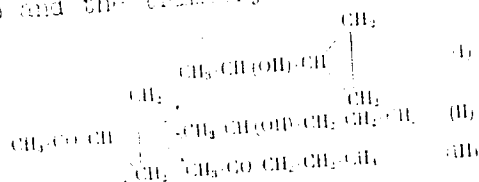
Brief Communication. Selective Reduction of Methyl Cyclopropyl Ketone Over the Zinc Catalysts

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1970, No 12, pp 2237-2239 (USSR)

ABSTRACT:

In catalytic reduction of methyl cyclopropyl ketone, two groups can be reduced: the carbonyl group and the trimethylene ring:



Card 1/3

The authors have found that Zn and Zn-Cu catalysts

Brief Communication. Selective Reduction of  
Methyl Cyclopropyl Ketone Over the Zinc  
Catalysts

77088

SOV/62-59-12-32/43

(in the temperature interval 80-160° and 130 atm pressure) cause selective reduction of the carbonyl group, according to path (I) of the above equation, while Cu catalysts first cause (at 80°) hydrogenation of the trimethylene ring (path III). 2-Pentanol is formed above 125°. This behavior of methyl cyclopropyl ketone during catalytic reduction is similar to the reduction of  $\alpha, \beta$ -unsaturated ketones (and aldehydes). There are 3 figures; 2 tables; and 10 references. 7 Soviet, 3 U.S. The U.S. references are: V. A. Slabey, P. H. Wise, J. Am. Chem. Soc., 71, 3252 (1949); R. V. Volkenburgh, K. W. Greenlee, J. M. Derfer, C. E. Boord, J. Am. Chem. Soc., 71, 3595 (1949); W. F. Bruce, G. Mueller, J. Seifter, J. L. Szabo, U. S. Pat. 2494084, Chem. Abstr., 45, 177 (1951).

ASSOCIATION:

N. D. Zelinskij Institute of Organic Chemistry of  
the Academy of Sciences, USSR (Institut organicheskoy

Card 2/3

Brief Communication. Selective Reduction of  
Methyl Cyclopropyl Ketone Over the Zinc  
Catalysts

77088

SOV/62-59-12-32/43

khimi imeni N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED:

May 4, 1959

Card 3/3



LESCHERYAKOV, A.P.; GLUKHOVSEV, V.G.

Vinyl ethers of methyl- and dimethylcyclopropylcarbinols. Izv.  
AN SSSR, Otd. khim. nauk no. 11:2002-2003 N '66. (RUSSIA 13:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Ethers)

MECHERJAKOV, A.P.; PETROVA, L.V.; GUMENYTSKY, V.G.

Synthesis of di-, tri-, and tetrasubstituted cyclopropane hydrocarbons by the Kishner reaction. Izv. AN SSSR, Otd. khim. nauk no. 1:114-119 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Cyclopropane)

15 8102 2209

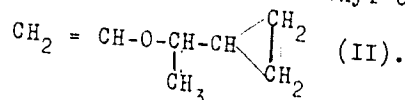
23591  
S/062/61/000/005/008/009  
B118/B220

AUTHORS: Shostakovskiy, M. F., Gracheva, Ye. P., Meshcheryakov, A. P.,  
and Glukhovtsev, V. G.

TITLE: Polymerization of the vinyl ether of methyl cyclopropyl  
carbinol

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh  
nauk, no. 5, 1961, 924 - 927

TEXT: In Ref. 1 (B. A. Zakharov et al., Dokl. AN SSSR, 122, no. 5, 814  
(1958)), it has been stated that the double bond of the vinyl ethers has  
an increased nucleophilic character which manifests itself in various  
addition reactions, transformations, and especially in the polymerization  
reaction. For the study of the conditions of polymerization of the com-  
pounds  $\text{CH}_2 = \text{CHOR}$  (I), the vinyl ether of methyl cyclopropyl carbinol is  
of special interest:

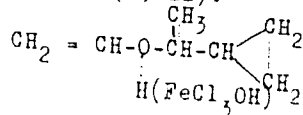
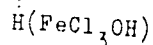
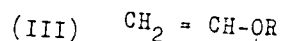


According to the rule of Markovnikov, the cyclopropyl group of this ether,  
Card 1/3

Polymerization of the...

23591  
S/062/61/000/005/008/009  
B118/B220

as possible carrier of the propenyl group, is able to add various polar compounds. Moreover, this ether may be of interest as test substance for the synthesis of different polymers in the polymerization and copolymerization reactions. The present paper describes the polymerization of the vinyl ether of methyl cyclopropyl carbinol in the presence of the initiators  $\text{FeCl}_3$  and azonitrile isobutyric acid under optimum conditions for the polymerization of the vinyl alkyl ethers. It has been found that compound (II) shows higher reactivity during polymerization in the presence of a 5 % solution of iron perchloride (in dioxane) than vinyl alkyl ethers (I) under the same conditions. First of all, this is evident from the fact that the polymerization of the ether (II) begins at  $0^\circ\text{C}$  and the highest yield in polymer is obtained at a temperature of  $-17$  to  $-20^\circ\text{C}$  whereas other vinyl alkyl ethers polymerize at boiling temperature only. The reason for such diverging temperatures of polymerization is the different stability of the ozonium complexes of these compounds (I, II):



(IV)

Card 2/3

Polymerization of the...

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B118/B220

Evidently, complex (IV) is of lower stability; its decomposition is effected at a low temperature resulting also in the formation of a polymer at lower temperature. The use of azonitrile isobutyric acid as initiator instead of  $\text{FeCl}_3$  did not give any results. There are 3 Soviet-bloc references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED: October 12, 1960

Card 3/3

MESHCHERYAKOV, A.P.; GLUKHOVTSEV, V.G.; LEMIN, N.N.

1-Cyclopropyl-2-(4-furyl)cyclopropane and its transformations.  
Izv.AN SSSR, Idd.khim.nauk no.10:1901-1903 O '41. (MIRA 14:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Cyclopropane)

MESHCHERYAHOV, A.F.; OLUKHOVTSEV, V.G.

Preparation of 1-cyclopropyl-2-(butanone-1'-ol-4')cyclopropane.  
Izv. AN SSSR Otd.khim.nauk no.12:2248-2250 v '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Cyclopropane)

MESHCHERYAKOV, A.P.; GLUSHKOVSEV, V.G.

Synthesis of 1,3-dicyclopropyl-2-ketobut-1-ene. Izv. Ak. Nauk SSSR  
Khim. Nauk no. 1:176-178 65 '72. (RUSA 1:1)

1. Institut organicheskoy Khimii im. N.D. Zelinskogo Ak. SSSR.  
(ketone) (Cyclopropane)



СЕРИЯ 1/13  
FERYDLIN, L.Kh.; SHARP, V.Z.; ABIDOV, M.A.; GLEKHOVSKIY, V.G.

Dehydration of methylcyclopropylcarbinol in the presence of acid  
catalysts. Izv. AN SSSR. Otd. khim. nauk no. 10:1843-1849 0 '62.  
(MIRA 15:10)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Methanol) (Dehydration (Chemistry)) (Catalysts)

1. The first of the two main points of the report is that the

the second of the two main points of the report is that the

the third of the two main points of the report is that the

S/062/63/000/003/009/018  
B101/B186

AUTHORS: Shuykin, N. I., Petrov, A. D., Glukhovtsev, V. G., and Karakhanov, R. A.

TITLE: Transformations of the 1-methyl-2- $\alpha$ -furyl cyclopropane and 1-cyclopropyl-2- $\alpha$ -furyl cyclopropane on catalytic hydrogenation

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 521 - 524

TEXT: Hydrogenation of the 1-methyl-2- $\alpha$ -furyl cyclopropane gave rise to 2-n-butyl and that of the 1-cyclopropyl-2- $\alpha$ -furyl cyclopropane with a palladium-carbon catalyst (15 % Pd) at 300°C produced 2-n-hexyltetrahydrofuran, with a yield of about 95 %. The hydrogenation of the furan rings proceeds in these bicyclic or tricyclic systems just as easily as with the simplest alkyl derivatives of the furan. The cyclopropane ring is broken open by the addition of hydrogen. The ring cleavage takes place between the tertiary C atoms. Synthesis of the 1-methyl-2- $\alpha$ -furyl-cyclopropane, b.p. 143.5°C/759 mm Hg,  $n_D^{20} = 1.4735$ ,  $d_4^{20} = 0.9499$ , by distillation of Card 1/2

Transformations of the ...

S/062/63/000/003/009/018  
B101/B186

the 3-methyl-5- $\alpha$ -furyl pyrazolin in the presence of dry KOH is suggested.  
The yield is 90 %.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii  
nauk SSSR (Institute of Organic Chemistry named N. D.  
Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: June 4, 1962

Card 2/2